

What is claimed is:

1. A method to be performed by a UE (user equipment) for DCA (dynamic channel allocation) in TDD CDMA communication systems, comprising:

5 (a) in a downlink timeslot, receiving the signals transmitted by a network system to each UE allocated in the downlink timeslot;

(b) estimating the strength of each interfering signal introduced by the signals transmitted to other UEs to the signal transmitted to the UE in the received signals;

10 (c) transmitting the information about each interfering UE whose interfering signal strength exceeds a predefined value, to the network system via an uplink.

2. The method of claim 1, wherein the information about each interfering UE is the midamble in the interfering signals, and step (c) further includes:

15 (c1) detecting the midamble in the interfering signals if the interfering signal strength exceeds a predefined value;

(c2) transmitting the midamble to the network system via the uplink.

3. The method of claim 2, further comprising:

(d) acquiring the corresponding network resource allocated by the network system if the interfering signal strength exceeds the predefined value;

(e) receiving signals from the network system by utilizing the allocated network resource.

4. The method of claim 3, wherein the network resource is the downlink timeslot allocated by the network system to the UE so that the UE can receive 5 signals from the network system in the downlink timeslot different from that of the interfering UEs.

5. The method in claim 3 or 4, wherein the network resource is the beam direction in which the network system transmits signals to the UE so that the UE and the interfering UEs can receive signals in different transmission directions 10 from the network system.

6. A method to be performed by a network system for DCA (dynamic channel allocation) in TDD CDMA communication systems, comprising:

(A) receiving from a UE the information about each interfering UE producing interfering signals to the UE;

15 (B) allocating network resource to the interfered UE according to the information about the interfering UE;

(C) reporting the allocated network resource to the interfered UE so that the interfered UE can receive signals transmitted from the network system by utilizing the allocated network resource.

20 7. The method of claim 6, wherein the network resource is the downlink timeslot allocated by the network system to the interfered UE so that the interfered

UE and the interfering UEs can receive signals from the network system in different downlink timeslots.

8. The method of claim 6 or 7, further comprising:

5 determining the position information of the interfered UE and each the interfering UE according to the information about each the interfering UE;

transmitting signals to the interfered UE and each interfering UE by utilizing beams in different directions, according to the position information.

9. The method in claim 6, wherein the information about the interfering UEs is the midamble in the interfering signals.

10 10. A UE, comprising:

a receiving unit, for receiving in a downlink timeslot signals transmitted by a network system to each UE allocated in the downlink timeslot;

introduced by the signals transmitted to other UEs to the signals transmitted to the 15 UE in the received signals;

a transmitting unit, for transmitting the information about each interfering UE whose interfering signal strength exceeds a predefined value, to the network system via an uplink.

11. The UE of claim 10, further comprising:

a detecting unit, for detecting the midamble in the interfering signal if the interfering signal strength exceeds a predefined value;

the transmitting unit, for transmitting the midamble to the network system via the uplink.

5 **12. A network system, comprising:**

a receiving unit, for receiving from a UE the information about each interfering UE producing interfering signals to the UE;

an allocating unit, for allocating network resource to the interfered UE according to the information about the interfering UEs;

10 a transmitting unit, for transmitting the allocated network resource to the interfered UE so that the interfered UE can receive signals transmitted from the network system by utilizing the allocated network resource.

15 **13. The network system of claim 12, wherein the network resource can be the downlink timeslot allocated by the network system to the interfered UE so that the interfered UE and the interfering UEs can receive signals from the network system in different downlink timeslots.**

20 **14. The network system of claim 12 or 13, further comprising:**

a determining unit, for determining the position information of the interfered UE and each the interfering UE according to the information about each the interfering UE;

the transmitting unit, for transmitting signals to the interfered UE and each interfering UE by utilizing beams in different directions, according to the position information.